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March 24, 2000

TO: Internal file

THRU: Pete Hess, Team Lead *IM for P. Hess*

FROM: Michael Suflita, Senior Reclamation Hydrologist *MS*

RE: Snow Stockpile, West Ridge Resources, Inc., West Ridge Mine, ACT/007/041-00C.

SUMMARY

The Operator submitted a request to use a portion of Cell A of the sediment pond for snow storage. This Technical Memo is a review of primarily the Hydrologic aspects of the submittal and is not all-inclusive. There are deficiencies resulting from the review.

OPERATION PLAN

HYDROLOGIC INFORMATION

Regulatory Reference: 30 CFR Sec. 773.17, 774.13, 784.14, 784.16, 784.29, 817.41, 817.42, 817.43, 817.45, 817.49, 817.56, 817.57; R645-300-140, -300-141, -300-142, -300-143, -300-144, -300-145, -300-146, -300-147, -300-147, -300-148, -301-512, -301-514, -301-521, -301-531, -301-532, -301-533, -301-536, -301-542, -301-720, -301-731, -301-732, -301-733, -301-742, -301-743, -301-750, -301-761, -301-764.

Analysis:

The submittal consists of a cover letter, C1 and C2 forms, Map 7-4, Sediment Pond - Plan & Profile, and Table 16A, West Ridge Sediment Pond As-Constructed Volumes. The map and table are both certified by a Professional Engineer. Importantly, the cover letter is NOT included into the Mining and Reclamation Plan (MRP) and therefore, the submittal is not complete since the map and table do not explain the intent of storing snow in the sediment pond.

The concern associated with snow storage in a sediment pond is that the snow will take up space that would be needed should a storm event occur and run into the pond. The result would be, even for a design event, flows would exceed the design flows and possible damage would result. The table indicates that there is 0.479 Acre-Feet, or 775 cubic yards, more storage in the constructed pond than was designed in the approved MRP. Comparison of the plan and

the submittal shows this to be correct. Assuming 12 cubic yard trucks were used, that would be about 65 truckloads of snow.

Although the cover letter indicates only Cell A will be used, there's no indication in the actual submittal of where the snow would be stored in the pond. That is, at the upper end where the inlet channel to Cell A is located or along the sloping sides of the pond along the main road. There is very little room at both locations and it appears difficult to accommodate dumping the snow from trucks into the pond. The inlet channel should not be blocked. The existing concrete barriers further inhibit access for snow dumping. Further, given the embankment slopes, some of the snow would not reach the pond. There's no indication of how the volume of snow would be verified to assure that no more than 0.479 Acre-Feet of snow is allowed into the active storage volume of the pond. This is a snow storage management issue to prevent problems. Basically, the submittal does not show that the snow can be successfully stored in the sediment pond.

The original MRP includes 18 snow storage locations that are dispersed throughout the site. See Map 7-2, Mine Site Drainage Map. The snow would not have to be hauled anywhere, but rather, just plowed into storage locations. This design was included to accommodate snow storage and still allow for active mine operations. This mine is still under construction and considerable space is occupied by construction equipment (for example, cranes and earth moving equipment) and construction materials that will be consumed in building the site. It seems premature to consider additional snow storage when the planned storage is not being used.

Findings:

In its present form the submittal does not meet minimum regulatory requirements. Accordingly, the Permittee must address those deficiencies as found within this Technical Memo and provide the following, prior to approval, in accordance with the requirements of:

R645-301-742,

- Submit a proposal suitable for including into the MRP.
- Demonstrate that it is necessary to store snow in the sediment pond.
- Demonstrate that the snow storage plan (as devised) will not impact any of the sediment storage volume designed to treat the 10-year 24-hour event.

RECOMMENDATION:

The proposed amendment should not be approved in its present form.